

# SEQUENCE LISTING

## (1) GENERAL INFORMATION

- (i) APPLICANT: Miles, Vincent J.  
Mathews, Michael B.  
Katze, Michael G.  
Witherell, Gary  
Watson, Julia C.
- (ii) TITLE OF INVENTION: METHOD FOR SELECTIVE INACTIVATION  
OF VIRAL REPLICATION
- (iii) NUMBER OF SEQUENCES: 33
- (iv) CORRESPONDENCE ADDRESS:
  - (A) ADDRESSEE: Pennie & Edmonds
  - (B) STREET: 1155 Avenue of the Americas
  - (C) CITY: New York
  - (D) STATE: New York
  - (E) COUNTRY: USA
  - (F) ZIP: 10036/2711
- (v) COMPUTER READABLE FORM:
  - (A) MEDIUM TYPE: Diskette
  - (B) COMPUTER: IBM Compatible
  - (C) OPERATING SYSTEM: DOS
  - (D) SOFTWARE: FastSEQ Version 2.0
- (vi) CURRENT APPLICATION DATA:
  - (A) APPLICATION NUMBER: 08/221,816
  - (B) FILING DATE: 01-APR-1994
  - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
  - (A) NAME: Coruzzi, Laura A
  - (B) REGISTRATION NUMBER: 30,742
  - (C) REFERENCE/DOCKET NUMBER: 7960-030
- (ix) TELECOMMUNICATION INFORMATION:
  - (A) TELEPHONE: (212) 790-9090
  - (B) TELEFAX: (212) 869-8864
  - (C) TELEX: 66141 PENNIE

## (2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 1515 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

ATGGTGGCCC	CCGGCTCTGT	GACCAGCCGG	CTGGGCTCGG	TGTTCCCTTT	CCTGCTGGTC	60
CTGGTGGACC	TGCAGTACGA	AGGTGCTGAA	TGTGGAGTAA	ATGCAGATGT	TGAGAAGCAT	120
CTGGAATTGG	GCAAGAAGCT	GCTCGCAGCC	GGACAGCTCG	CGGATGCGTT	ATCTCAGTTT	180
CACGCTGCAG	TAGATGGTGA	CCCTGATAAC	TATATTGCTT	ACTATCGGAG	AGCTACTGTC	240
TTTTTAGCTA	TGGGCAAATC	AAAAGCAGCA	CTTCCTGATT	TAACTAAAGT	GATTGAATTG	300
AAGATGGATT	TCACTGCAGC	AAGATTACAG	AGAGGTCACT	TATTACTCAA	ACAAGGAAAA	360
CTTGATGAAG	CAGAAGATGA	TTTTAAAAAA	GTGCTCAAGT	CAAATCCAAG	TGAAAATGAA	420
GAGAAGGAGG	CCCAGTCCCA	GCTTGTCAAA	TCTGATGAAA	TGCAGCGTCT	GCGCTCACAA	480
GCACTGGATG	CCTTTGAGAG	CTCAGATTTT	ACTGCTGCTA	TAACCTTCCT	TGATAAGATT	540

TTAGAGGTTT	GTGTTTGGGA	TGCAGAACTT	CGAGAACTTC	GAGCTGAATG	TTTTATAAAA	600
GAAGGGGAAC	CTAGGAAAGC	GATAAGTGAC	TTAAAAGCTT	CATCAAAATT	GAAAAACGAT	660
AATACTGAGG	CATTTTATAA	AATCAGCACA	CTCTACTATG	AACTAGGAGA	CCATGAAGTG	720
TCTCTCAGTG	AAGTTCGTGA	ATGTCTTAAA	CTTGACCAGG	ATCATAAAAG	GTGTTTGGCA	780
CACTATAAAC	AAGTAAAGAA	ACTGAATAAG	CTGATTGAGT	CAGCTGAAGA	GCTCATCAAA	840
GAAGGCAGGT	ACACAGATGC	AATCAGCAAA	TATGAATCTG	TCATGAAAAC	AGAGCCAGGT	900
GTTTCATGAAT	ATACAATTCG	TTCAAAAGAA	AGGATTTGCC	ACTGCTTTTC	TAAGGATGAG	960
AAGCCTGTTG	AAGCTATTTC	AGTATGTTCA	GAAGTTTTAC	AGGTGGAACC	TGACAACGTG	1020
AATGCTCTGA	AAGACCGAGC	AGAGGCCTAT	TTAATAGAAG	AAATGTATGA	TGAAGCTATT	1080
CAGGATTATG	AAACTGCTCA	GGAACACAAT	GAGAATGATC	AGCAGATTCG	AGAAGGTCTG	1140
GAGAAAGCAC	AGAGGCTACT	GAAACAGTCA	CAGAGACGAG	ATTATTACAA	AATCTTGGGA	1200
GTA AAAAGAA	ATGCCAAAAA	GCAAGAAATC	ATTAAAGCAT	ACCGAAAATT	AGCACTGCAG	1260
TGGCACCCAG	ACAACCTTCCA	GAACGAAGAA	GAAAAGAAAA	AAGCTGAGAA	GAAGTTCATT	1320
GACATAGCAG	CTGCTAAAGA	AGTCCTCTCC	GATCCAGAAA	TGAGGAAGAA	GTTTGATGAC	1380
GGAGAAGACC	CCCTGGACGC	AGAGAGCCAA	CAAGGAGGTG	GCGGCAACCC	TTTCCACAGG	1440
AGCTGGA ACT	CATGGCAAGG	GTTTCAGTCCC	TTTAGCTCAG	GCGGACCTTT	TAGATTTAAA	1500
TTCCACTTCA	ATTAA					1515

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 47 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

AATAGAATTC TAATACGACT CACTATAGGG ACACTTGCTT TTGACAC

47

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

ATAAGGTACC TCTGTCTGTT TTGGGGG

27

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

AATACTGCAG TGATCATGGA AGACGCCAAA AACATAAAG

39

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:  
AATAAAGCTT GGGCCCTTAC AATTGGA CT TTCCGC 36

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 37 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:  
AATAGGTACC ATGGAGAAAA AAATCACTGG ATATACC 37

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 27 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:  
AATAGGATCC TTACGCCCG CCCTGCC 27

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 27 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:  
AATAGGATCC TTAAACAGC GGATGGG 27

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 48 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:  
AAACTGCAG CATGCTGATC ACAGTATATG TATATATATG CTGTGACC 48

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 34 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

AGTAGTCGGT CCCGTCCCGG AATTGCGCAT TACG

34

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Ala Glu Ala Tyr Leu Ile Glu Glu Met Tyr Asp Glu Ala Ile Gly Asp  
1 5 10 15  
Tyr Glu Thr Ala  
20

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GAAGGAAGAT GTATCGATCG AAAGC

25

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(ix) FEATURE:

- (A) NAME/KEY: Modified Base
- (B) LOCATION: 3
- (D) OTHER INFORMATION: WHERE N REPRESENTS INOSINE

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

GCNGTTCTCA GTAAGTCTCT G

21

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Gln Asp Tyr Glu Thr Ala  
1 5

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

GACTCGAGGA TCCGAATTCT TTTTTTTTTT TTTTTT

36

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

GACGCGACCA TCCGAATTC

19

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

GCTGAAGAGC TCATCAAAG

19

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 45 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

AGCAAAAGCA GGUAGAUAA UCACUCACUG AGUGACAUCA AAAUC

45

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 159 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

GGGCACUCUU CCGUGGUCUG GUGGAUAAU UCGCAAGGGU AUCAUGGCGG ACGACCGGGG

60

UUCGAACCCC GGAUCCGGCC GUCCGCCGUG AUCCAUGCGG UUACCGCCCG CGUGUCGAAC 120  
CCAGGUGUGC GACGUCAGAC AACGGGGGAG CGCUCCUUU 159

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 159 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

GGGCACUCUU CCGUGGUCUG GUGGAUAAU UCGCAAGGGU AUCAUGGCGG ACGACCGGGG 60  
UUCGAACCCC GGAUCCGGCC GUCCGCCGUG AUCCAUGCGG UUACCGCCCG CGUGUCGAAC 120  
CCAGGUGUGC GACGUCAGAC AACGGGGGAG CGCUCCUUU 159

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 15 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

CACCTGGGTT CGACA

15

(2) INFORMATION FOR SEQ ID NO:22:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 15 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

GUGGACCCAA GCUGU

15

(2) INFORMATION FOR SEQ ID NO:23:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 15 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

CGGTAACCGC ATGGA

15

(2) INFORMATION FOR SEQ ID NO:24:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 15 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

GCCAUUGGCG UACCU

15

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

AACCCCGGTC GTCCG

15

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

UUGGGGCCAG CAGGC

15

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

CACCTGGGTT CG

12

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

GUGGACCCAA GC

12

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

TCGAACCCCG GTCGTCCGCC ATGATAC

27

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

AGCUUGGGGC CAGCAGGCGG UACUAUG

27

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 627 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

UUAAAACAGC	GGAUGGGUUAU	CCCACCAUUC	GACCCAUUGG	GUGUAGUACU	CUGGUACUAU	60
GUACCUUUGU	ACGCCUGUUU	CUCCCCAACC	ACCCUUCUUU	AAAAUUCCCA	CCCAUAUGAA	120
ACGUUAGAAG	CUUGACAUUA	AAGUACAAUA	GGAGGCGCCA	UAUCCAAUGG	UGUCUAUGUA	180
CAAGCACUUC	UGUUUCCCCG	GAGCAGGUAU	AGGCUGUACC	CACUGCCAAA	AGCCUUAACC	240
GUUAUCCGCC	AACCAACUAC	GUAACAGUUA	GUACCAUCUU	GUUCUUGACU	GGACGUUCGA	300
UCAGGUGGAU	UUCCCCUCCA	CUAGUUUGGU	CGAUGAGGCU	AGGAAUUCCC	CACGGGUGAC	360
CGUGUCCUAG	CCUCGUGGCG	GCCAACAGCU	UAUGCUGGGA	CGCCCUUUUA	AGGACAUGGU	420
GUGAAGACUC	GCAUGUGCUU	GGUUGUGAGU	CUCCGGCCCC	UGAAUGCGGC	UAACCUUAAC	480
CCUGGAGCCU	UAUGCCACGA	UCCAGUGGUU	GUAAGGUCGU	AAUGCGCAAU	UCCGGGACGG	540
GACCGACUAC	UUUGGGUGUC	CGUGUUUCUC	AUUUUUCUUC	AUAUUGUCUU	AUGGUCACAG	600
CAUAUAUAUA	CAUAUACUGU	GAUCAUG				627

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

GCGTCGACTA ATACGACTCA CTATAGGGAG TCTTATATAA TAGATATACA AAAC

54

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:



GGGAAATTTT TATTGGCGAG TAAACCTGG

29